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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,281	07/30/2001	Naofumi Kobayashi	FUJI 18.872	2411

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EXAMINER	
HAN, CLEMENCE S	

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

10

Office Action Summary	Application No.	Applicant(s)	
	09/918,281	KOBAYASHI, NAOFUMI	
	Examiner	Art Unit	
	Clemence Han	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *amendment rereived on 01/12/2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9,10 and 12-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9,10 and 12-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *02/24/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 15 and 16 are objected to because of the following informalities: Claim 15 and 16 are method claims. However, the last two lines of the objected claims have a unit instead of a step. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 1-7, 9, 10, 12-14 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. (US 6,201,810) in view of Furudono et al. (JP 2000174755).

Regarding to claim 1, Masuda teaches a communication device connectable to an IP network, comprising: an input queue (buffers in 3 in Figure 1) holding received packets until the packets are sent for a next process; a congestion monitor unit 14 monitoring the input queue and determining whether the communication device is congested (Column 5 Line 52-54); a congestion information creating unit 16 creating congestion information (Figure 6) concerning a congested state of the communication device when the congestion monitor unit detects the congested state thereof, the congestion information being sent to other devices connected the

IP network (Column 5 Line 66 – Column 6 Line 2). Masuda, however, does not explicitly teach a unit for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet. Furudono teaches a unit 23 for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet [0053]. It would have been obvious to one skilled in the art to modify Masuda to determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet as taught by Furudono in order to optimize the routing [0053].

Regarding to claim 2, Masuda teaches a routing table 13 storing information used for routing an input packet; and an updating unit updating the routing table upon receiving congestion information from another device (Column 7 Line 60-65).

Regarding to claim 3, Masuda teaches said congestion monitor unit detects a situation in which an input queue of the communication device overflows with packets so that packets are discarded (Column 8 Line 30-32).

Regarding to claim 4, Masuda teaches said congestion monitor unit detects a situation in which packets are stored an input queue of the communication device over a predetermined queue length (Column 5 Line 52-54).

Regarding to claim 5, Masuda teaches the congestion information created by said congestion information creating unit is sent to other communication devices adjacent to the communication device (Column 5 Line 66 – Column 6 Line 2).

Regarding to claim 6, Masuda teaches the congestion information created by said congestion information creating unit is sent to other communication devices located within given network range (Column 5 Line 66 – Column 6 Line 2).

Regarding to claim 7, Masuda teaches a unit for relaying congestion information received from another network to a route via which packets can be transported (Column 6 Line 23-27).

Regarding to claim 9, Masuda teaches a unit sending an input packet to an original route if congestion information is received both from another communication device in the original route and from a congested communication device in an alternative route (Column 5 Line 35-51).

Regarding to claim 10, Masuda teaches a unit discarding an input packet if congestion information is received both from another communication device and

from a congested communication device in an alternative route (Column 5 Line 35-51).

Regarding to claim 12, Masuda teaches a unit 54 notifying other communication device of the congestion state monitored by said congestion monitor unit 14 and sending congestion information received from another communication device (Column 5 Line 55-65) to a route having a smallest frequency of occurrence of congested state based on the congestion information received (Masuda teaches selecting optimal route (Column 7 Line 4-9)). Masuda, however, does not explicitly teach monitoring a frequency of occurrence of congestion. Lyon teaches monitoring a frequency of occurrence of congestion (Figure 19). It would have been obvious to one skilled in the art to modify Masuda to monitor a frequency of occurrence of congestion as taught by Lyon in order to improve QoS (Column 17 Line 31-35).

Regarding to claim 13, Masuda teaches a unit sending information indicative of restoration from the congested state to other communication networks (Column 8 Line 12).

Regarding to claim 14, Masuda teaches congestion monitor unit monitors one of an input interface and an output interface of said communication device (Column 5 Line 52-54).

Regarding to claim 16, Masuda teaches a communication control method applied to a device connected to an IP network, comprising the steps of: receiving a plurality of packets (Column 5 Line 19-21); holding the received packets in an input queue (buffers in 3 in Figure 1) until the packets are sent for a next process; monitoring the input queue and determining whether the communication device is congested (Column 5 Line 52-54); creating congestion information (Figure 6) concerning a congested state of the communication device when the congested state thereof is detects, the congestion information being sent to other devices connected the IP network (Column 5 Line 66 – Column 6 Line 2). Masuda, however, does not explicitly teach a unit for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet. Furudono teaches a unit 23 for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet [0053]. It would have been obvious to one skilled in the art to modify Masuda to determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet as taught by Furudono in order to optimize the routing [0053].

Regarding to claim 17, Masuda teaches updating a routing table storing information used for routing an input packet upon receiving congestion information from another device (Column 7 Line 60-65).

Regarding to claim 18, Masuda teaches a system comprising: plurality of communication devices each connected to an IP network (Figure 1, nodes in Figure 10), each of the plurality of communication devices comprising: an input queue (buffers in 3 in Figure 1) holding received packets until the packets are sent for a next process; a congestion monitor unit 14 monitoring the input queue and determining whether the communication device is congested (Column 5 Line 52-54); a congestion information creating unit 16 creating congestion information (Figure 6) concerning a congested state of the communication device when the congestion monitor unit detects the congested state thereof, the congestion information being sent to other devices connected the IP network (Column 5 Line 66 – Column 6 Line 2). Masuda, however, does not explicitly teach a unit for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet. Furudono teaches a unit 23 for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet [0053]. It would have been obvious to one skilled

in the art to modify Masuda to determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet as taught by Furudono in order to optimize the routing [0053].

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al. in view of Furudono et al. and further in view of Greuel et al. (US Pub. 2002/0133584).

Regarding to claim 15, Masuda teaches a communication control method applied to a device connected to an IP network, comprising the steps of: receiving a plurality of packets (Column 5 Line 19-21); holding the received packets in an input queue (buffers in 3 in Figure 1) until the packets are sent for a next process; monitoring the input queue and determining whether the communication device is congested (Column 5 Line 52-54); creating congestion information (Figure 6) concerning a congested state of the communication device when the congested state thereof is detects, the congestion information being sent to other devices connected the IP network (Column 5 Line 66 – Column 6 Line 2). Masuda, however, does not explicitly teach a unit for determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet. Furudono teaches a unit 23 for

determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet [0053]. It would have been obvious to one skilled in the art to modify Masuda to determining a route that can avoid congestion for an input packet based on a frequency of occurrence of congestion at a packet destination of the input packet as taught by Furudono in order to optimize the routing [0053]. Masuda in view of Furudono, however, does not teach defining an accounting system based on a packet discard ratio determined based on a congestion avoiding control. Greuel teaches defining an accounting system based on a packet discard ratio determined based on a congestion avoiding control [0020]. It would have been obvious to one skilled in the art to modify Masuda in view of Furudono to monitor a frequency of occurrence of congested state as taught by Greuel in order to monitor the performance of a network [0006].

Response to Arguments

5. Applicant's arguments with respect to claim 1-7, 9, 10 and 12-18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the invention in general.

U.S. Patent 6,687,230 to Furutono et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (571) 272-3158. The examiner can normally be reached on Monday-Thursday 7 - 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.H.

Clemence Han
Examiner
Art Unit 2616

STEVEN NGUYEN
PRIMARY EXAMINER